SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name
Permabond TA4605B

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Adhesive.

1.3. Details of the supplier of the safety data sheet

Supplier
Permabond Engineering Adhesives Ltd.
Wessex Way
Colden Common
Winchester
Hampshire. SO21 1WP
United Kingdom
Tel: +44 (0)1962 711 661
Fax: +44 (0)1962 711 662
info.europe@permabond.com

1.4. Emergency telephone number

Emergency telephone
UK +44 (0)1962 711 661 USA 0800 640 7599 Asia +86 (0)21 5773 4913

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)
Physical hazards
Not Classified
Health hazards
Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 STOT SE 3 - H335
Environmental hazards
Not Classified

2.2. Label elements

Pictogram

Signal word
Warning

Hazard statements
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
Permabond TA4605B

Precautionary statements

P280 Wear protective gloves, eye and face protection.
P302+P352a IF ON SKIN: Wash with plenty of soap and water
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.

Contains

BENZYL METHACRYLATE, 2-ETHYLHEXYL METHACRYLATE

Supplementary precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with existing Community, National and local regulations.

2.3. Other hazards

None under normal conditions.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>BENZYL METHACRYLATE</th>
<th>30-60%</th>
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<tbody>
<tr>
<td>CAS number: 2495-37-6</td>
<td>EC number: 219-674-4</td>
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<tr>
<td>Classification</td>
<td>Classification (67/548/EEC or 1999/45/EC)</td>
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<tr>
<td>Skin Irrit. 2 - H315</td>
<td>Xi;R36/37/38. R43.</td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H335</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2-ETHYLHEXYL METHACRYLATE</th>
<th>10-30%</th>
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<tr>
<td>CAS number: 688-84-6</td>
<td>EC number: 211-708-6</td>
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<tr>
<td>Classification</td>
<td>Classification (67/548/EEC or 1999/45/EC)</td>
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<tr>
<td>Skin Sens. 1 - H317</td>
<td>Xi;R36/37/38.</td>
</tr>
<tr>
<td>Aquatic Chronic 3 - H412</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>TRIETHYLBORANE-1,3-DIAMINOPROPAINE COMPLEX</th>
<th>1-5%</th>
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<tr>
<td>CAS number: 148861-07-8</td>
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</tr>
<tr>
<td>Classification</td>
<td>Classification (67/548/EEC or 1999/45/EC)</td>
</tr>
<tr>
<td>Acute Tox. 4 - H312</td>
<td>Xn;R21. C;R35.</td>
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<tr>
<td>Skin Corr. 1A - H314</td>
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<tr>
<td>Eye Dam. 1 - H318</td>
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</tr>
</tbody>
</table>

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Move the exposed person to fresh air. Get medical attention if any discomfort continues.
Permabond TA4605B

Ingestion
Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention.

Skin contact
Wash skin thoroughly with soap and water. If symptoms develop, obtain medical attention

Eye contact
Remove any contact lenses and open eyelids wide apart. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation
May cause respiratory irritation.

Skin contact
Skin irritation. Mild dermatitis, allergic skin rash.

Eye contact
Irritating and may cause redness and pain.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor
No specific recommendations. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Foam, carbon dioxide or dry powder.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

5.3. Advice for firefighters

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions
Not considered to be a significant hazard due to the small quantities used. Avoid discharge into drains.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up
Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal.

6.4. Reference to other sections

Reference to other sections
For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions
Use in a well ventilated area. Avoid contact with skin and eyes. Avoid eating, drinking and smoking when using the product.

7.2. Conditions for safe storage, including any incompatibilities
Permabond TA4605B

**Storage precautions**
Keep only in the original container in a cool, well-ventilated place. Keep container dry. Store in closed original container at temperatures between 2°C and 7°C. Never return unused material to storage receptacle.

**7.3. Specific end use(s)**
**Usage description**
Adhesive.

### SECTION 8: Exposure Controls/personal protection

#### 8.1. Control parameters

#### 8.2. Exposure controls

**Protective equipment**

- **Appropriate engineering controls**
  Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

- **Eye/face protection**
  The following protection should be worn: Chemical splash goggles or face shield. Personal eye protection should conform to EN 166

- **Hand protection**
  Nitrile rubber or Viton™ gloves are recommended. Cotton or other absorbent gloves should not be worn. Gloves should conform to EN 374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

- **Other skin and body protection**
  Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.

- **Hygiene measures**
  Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Use of good industrial hygiene practices is required.

- **Respiratory protection**
  No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

### SECTION 9: Physical and Chemical Properties

#### 9.1. Information on basic physical and chemical properties

- **Appearance**
  Liquid.

- **Colour**
  Colourless to pale yellow.

- **Odour**
  Acrylic

- **Odour threshold**
  Not available.

- **pH**
  Not relevant.

- **Melting point**
  Not available.

- **Initial boiling point and range**
  Not applicable.

- **Flash point**
  >100°C

- **Evaporation rate**
  Not available.

- **Upper/lower flammability or explosive limits**
  Not available.

- **Vapour pressure**
  Not available.
Permabond TA4605B

**Vapour density**  
Not available.

**Relative density**  
1.0

**Solubility(ies)**  
Miscible with the following materials: Organic solvents.

**Auto-ignition temperature**  
Not available.

**Decomposition Temperature**  
Not available.

**Viscosity**  
≈25000 mPa s @ 23°C

**Oxidising properties**  
Not available.

**SECTION 10: Stability and reactivity**

10.1. Reactivity  
Reactivity  
The following materials may react with the product: Strong oxidising agents.

10.2. Chemical stability  
Stability  
Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions  
Possibility of hazardous reactions  
There are no known reactivity hazards associated with this product.

10.4. Conditions to avoid  
Conditions to avoid  
Stable at normal ambient temperatures and when used as recommended.

10.5. Incompatible materials  
Materials to avoid  
No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products  
Hazardous decomposition products  
Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects  
Toxicological effects  
The toxicological properties of this product have not been fully evaluated. Avoid direct contact with skin or eyes. Do not ingest or inhale.

**Skin corrosion/irritation**  
Irritating to skin.

**Animal data**  
Irritating to skin.

**Serious eye damage/irritation**  
Irritating to eyes.

**Skin sensitisation**  
May cause sensitisation by skin contact.

**Aspiration hazard**  
Not anticipated to present an aspiration hazard, based on chemical structure.
Permabond TA4605B

**Inhalation**
May cause respiratory system irritation.

**Ingestion**
No harmful effects expected from quantities likely to be ingested by accident.

**Toxicological information on ingredients.**

### BENZYL METHACRYLATE

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route of Exposure</th>
<th>Toxicity (mg/kg)</th>
<th>Species</th>
<th>ATE (mg/kg)</th>
</tr>
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<tbody>
<tr>
<td>Acute toxicity - oral</td>
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<td>3,980.0</td>
<td>Rat</td>
<td>3,980.0</td>
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<tr>
<td>Acute toxicity dermal</td>
<td></td>
<td>2,000.1</td>
<td>Rat</td>
<td>2,000.1</td>
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</tbody>
</table>

### 2-ETHYLHEXYL METHACRYLATE

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route of Exposure</th>
<th>Toxicity (mg/kg)</th>
<th>Species</th>
<th>ATE (mg/kg)</th>
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<tbody>
<tr>
<td>Acute toxicity - oral</td>
<td></td>
<td>2,000.1</td>
<td>Rat</td>
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</table>

### Trimethylenediamine

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route of Exposure</th>
<th>Toxicity (mg/kg)</th>
<th>Species</th>
<th>ATE (mg/kg)</th>
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<tr>
<td>Acute toxicity - oral</td>
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<tr>
<td>Acute toxicity dermal</td>
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<td>200.0</td>
<td>Rabbit</td>
<td>200.0</td>
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</tbody>
</table>

**SECTION 12: Ecological Information**

**Ecotoxicity**
The product is not expected to be hazardous to the environment.

**12.1. Toxicity**
Permabond TA4605B

Toxicity
No data available.

Ecological information on ingredients.

**BENZYL METHACRYLATE**

Acute toxicity - fish
LC₅₀, 48 hours: 4.67 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic plants
NOEC, 72 hours: 0.899 mg/l, Desmodesmus subspicatus
EC₅₀, 72 hours: 2.28 mg/l, Desmodesmus subspicatus

Chronic toxicity - aquatic invertebrates
NOEC, 21 days: 4.21 mg/l, Daphnia magna

**2-ETHYLHEXYL METHACRYLATE**

Acute toxicity - fish
EC₅₀, 96 hours: 2.78 mg/l, Oryzias latipes (Red killifish)

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 4.56 mg/l, Daphnia magna

Acute toxicity - aquatic plants
EC₅₀, 72 hours: 7.68 mg/l, Selenastrum capricornutum
NOEC, 72 hours: 0.28 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms
NOEC, 28 days: 100 mg/l, Activated sludge

Chronic toxicity - aquatic invertebrates
NOEC, 21 days: 0.11 mg/l, Daphnia magna

**TRIMETHYLENEDIAMINE**

Acute toxicity - fish
LC₅₀, 96 hours: > 100 - < 150 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 27.2 mg/l, Daphnia magna

Acute toxicity - aquatic plants
EC₅₀, 72 hours: 175 mg/l, Scenedesmus subspicatus

Acute toxicity - microorganisms
EC₅₀, 17 hours: 67.2 mg/l, Pseudomonas putida
EC₅₀, 30 minutes: 1995 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability
No data available.

Ecological information on ingredients.

**BENZYL METHACRYLATE**

Biodegradation
Water - Degradation 74%: 28 days

**2-ETHYLHEXYL METHACRYLATE**

Biodegradation
Water - Degradation 88%: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential
No data available on bioaccumulation.

12.4. Mobility in soil
Permabond TA4605B

Mobility
No data available.

Ecological information on ingredients.

**BENZYL METHACRYLATE**

**Adsorption/desorption coefficient**
- log Koc: 2.57 @ 25°C

12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment**
This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

**Other adverse effects**
None known.

**SECTION 13: Disposal considerations**

13.1. Waste treatment methods

**General information**
Waste disposal should be in accordance with existing Community, National and local regulations. Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

**Disposal methods**
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

**Waste class**
08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

**SECTION 14: Transport information**

**General**
The product is not classified as dangerous for carriage.

14.1. UN number
Not applicable.

14.2. UN proper shipping name
Not applicable.

14.3. Transport hazard class(es)
Not applicable.

14.4. Packing group
Not applicable.

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.
Permabond TA4605B

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations


EU legislation


Guidance

Workplace Exposure Limits EH40.

CHIP for everyone HSG228.

Approved Classification and Labelling Guide (Sixth edition) L131.

Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date 14/03/2016
Revision 2
Supersedes date 26/05/2015

Hazard statements in full

H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.